



JUNG, AUST & PARTNER

The Flexible Factory - a Methodology

The "Flexible Factory" is a comprehensive Concept to improve competitiveness and profitability of manufacturing organizations. The Concept the "Flexible Factory" as focal point of the supply chain has been developed by Werner E. Jung and Eduard Ryser. It has been proven in many applications and has been published widely in the past years.

65% of the Assets and 70% of all Cost of a manufacturing organization are on average attributed to "The Factory". This is where most of the potential for improvement lies. Real Profit is only made after the customer has paid. This is why the optimal use of available resources and flexible and fast response to customer demand have to be the top priority. The Factory and the supply chain are full of potential for short-term freeing of working capital and lasting cost reduction. Demand driven production and the consistent elimination of non-value-adding activities reduces lead-times, improves on-time deliveries and adds value for the customer through, flexibility, response and reliability.

Realization of short-term Results Ensuring lasting Success

The main difference of this methodology is the short-term generation of additional cash-flow through the project itself. Results can be generated quickly and the project cost are financed through the generated additional cash-flow. An Implementation project generally is completed in 100days or less. Normally a project generates a cash-flow in the first 12 months which is 10 to 20 times higher than the cost of a project. The freed up resources can then be used for measures to ensure future competitiveness and profitability of the company.

The key **Criteria** are:

- Flexibility
- Speed
- Quality
- Cost

The "Flexible Factory" methodology has been specifically developed with the needs of midsize companies in mind. A fast and efficient implementation has the goal to realize competitive advantages quickly and to add to the perceived value of the customers. The additional creation of cash-flow is a nice "side-benefit" of these activities.

The Key Elements of the Flexible Factory are:

- **Customer orientation**, externally as well as internally. Job #1 for production is to fill customer orders.
- Activities have to be **process-oriented**. They should be arranged "in a flow".
- **Ensured material supply** via self-controlled systems, like Kanban.
- **Flexible employees** can fulfill multiple tasks
- **Quality is built into the process**, not controlled afterwards.
- **Improvements are to be concentrated on bottlenecks**. Only there do they add to the whole.
- **To cope with imponderables is a management task**. Good management can handle the unforeseen.
- There has to be **measurability and accountability**. Measurements have to reflect the overall strategy. You get what you measure.

The concept of the "Flexible Factory" is not a new "religion or salvation from all evils". It is the concentration on the key principles of proven Elements:

- Toyota Production System (T. Ohno)
- Process orientation (M. Hammer & J. Champy)
- Theory of Constraints (E. Goldratt)
- TQM (E. Demming)
- Supply Chain Management

The Flexible Factory is a proven set of practical methods and tools for implementation. Fast and efficient implementation and short-term realization of results are priority.

The intensity and degree of application of one or the other method or tool depend on the specific situation in each company. The starting point and management objectives are decisive. No two implementations are identical.

The complete methodology consists of:

- **Analysis of short & medium term potentials**
- **Training, Seminars and Workshops**
- **Establishment of a Masterplan with defined milestones**
- **Structured implementation with defined phases**
- **Software to assist in efficient implementation**
- **Audits and certifications**
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Projects:

Firma / Ort	Industry	Project
Amman Verdichtung GmbH Hennef, Germany	Road equipment	New assembly
NACCO Material Handling Nijmegen, Netherlands	Fork-lift trucks, Container-Movers 12 – 24 to.	Assembly and prefab
NACCO Material Handling Bologna, Italy	Fork-lifts, 0,5 – 1,0 to (Hyster, Yale)	Assembly
American Standard GmbH Wittlich, Germany	Armatures, fittings	Fittings production
Ingersoll Rand Ltd Wiggam, UK	Transportable Compressors	Redesign of assembly
Otto Sauer Achsenfabrik Bessenbach, Germany	Truck & Trailer Axles Automotive supplier	New production facility
Sunrise Medical GmbH Malsch, Germany	Wheelchairs	Production electric Wheelchairs
TRANE SA Charmes, France	Industrial cooling systems	Redesign of production
Inficon (Balzers) Balzers, Liechtenstein	Vacuum sensors Gas analyzers	Sensor production Appliance assembly
Cerberus (Siemens) Volketswil, Switzerland	Fire & safety products Intrusion control	Printed circuit assemblies Control units
Siemens Building Technology Berlin, Germany	Building safety , fire & intrusion	Control units
Nelm SA Mendrisio, Switzerland	Electronics production	Printed circuit board assembly, equipment
Fri-Jado B.V. Etten-Leur, Netherlands	Retail store equipment Cooling systems	Cooling systems production
Flextronics International Paderborn, Germany	Electronic manufacturing	Redesign server production
Grassair B.V. Oos, Netherlands	Compressors, n	Redesign compressor production
Portescap SA (API) La Chaux de Fond, Switzerl.	Electr. Micromotors	Motor assembly
Capax Electronic B.V. Eindhoven, Netherlands	Electronic switches and Sensors	Hybrid production Switch assembly
Dold Regler GmbH Fellbach, Germany	Industrial electronics Sensors & control units	Complete redesign of the facility.
Jung Hebetchnik GmbH Waiblingen, Germany	Industrial lifting and transport equipment	Complete redesign of the facility.
Torrington Bearings Halle / Westf. Germany	Automotive supplier	Demand driven axial bearings production

Training / Workshops for:

Allweiler AG, John Deere, SAP, Tegometall, Zumtobel-Staff, Heraeus, Leybold, Miele, Bosch, Bär Fahrzeugbau, SWF-Valeo, Sirona, Brooks Instruments, Amman, Bomag, Wabco, ABB Fisher-Rousemount, Alfmeier Präzision, Ascom, Philips Medical Systems, TNO etc.